

Part II: Course Structure & Semester wise Credit Distribution

First Semester (First Year)							
Mandatory Induction Program- 3 Weeks Duration							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M101	Mathematics-I	3	1	0	4
2	BS	BS-CH101	Chemistry	3	0	0	3
3	ES	ES-EE101	Basic Electrical and Electronics Engineering	2	1	0	3
4	HM	HM-HU101	Communication Skill (Jeevan Kaushal-I)	2	0	0	2
5	HM	HM-HU102	Introduction to Indian Knowledge System (Indian Knowledge System-I)	2	0	0	2
<i>Total Theory</i>				12	2	0	14
Practical/ Sessional/ Audit Course							
1	BS	BS-CH191	Chemistry Laboratory	0	0	3	1.5
2	ES	ES-EE191	Basic Electrical and Electronics Engineering Laboratory	0	0	4	2
3	ES	ES-ME192	Workshop/Manufacturing Practices	0	0	4	2
4	HM	HM-HU191	Communication Skill Laboratory	0	0	2	1
<i>Total Practical/ Sessional/ Audit Course</i>				0	0	13	6.5
Total of First Semester				12	2	13	20.5

Second Semester (First Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	BS	BS-M201	Mathematics-II	3	1	0	4
2	BS	BS-PH201	Physics	3	1	0	4



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

3	ES	ES-CS201	Programming for Problem Solving	3	0	0	3
4	HM	HM-HU203	Inculcation of Human Values and Professional Ethics (Mulya Prava)	2	0	0	2
5	AU	AU271	NSS/NCC	2	0	0	0
<i>Total Theory</i>				13	2	0	13
Practical/ Sessional/ Audit Course							
1	BS	BS-PH291	Physics Laboratory	0	0	3	1.5
2	ES	ES-CS291	Programming for Problem Solving Laboratory	0	0	4	2
3	ES	ES-ME291	Engineering Graphics and Design	0	0	4	2
4	PW	PW-BS281	Ideation Laboratory	0	0	2	1
<i>Total Practical/ Sessional/ Audit Course</i>				0	0	13	6.5
Total of Second Semester				13	2	13	19.5

Third Semester (Second Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	ES	ES-EC301	Analog and Digital Electronics	3	0	0	3
2	PC	PC-IT301	Data Structure and Algorithms	3	0	0	3
3	PC	PC-IT302	Computer Organization and Architecture	3	0	0	3
4	BS	BS-M301	Mathematics-III	3	0	0	3
<i>Total Theory</i>				12	0	0	12
Practical/ Sessional/ Audit Course							
1	ES	ES-EC391	Analog and Digital Electronics Laboratory	0	0	3	1.5
2	PC	PC-IT391	Data Structure and Algorithms Laboratory	0	0	3	1.5
3	PC	PC-IT392	Computer Organization and Architecture Laboratory	0	0	3	1.5
4	PC	PC-IT393	IT Workshop using Python	1	0	3	2.5
5	AU	AU-BS371	Environmental Science	2	0	0	0



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Inspiring Innovation

<i>Total Practical/ Sessional/ Audit Course</i>	3	0	12	7
Total of Third Semester	15	0	12	19

Fourth Semester (Second Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	ES	ES-IT401	Discrete Mathematics	3	0	0	3
2	PC	PC-IT401	Database Management System	3	0	0	3
3	PC	PC-IT402	Design and Analysis of Algorithms	3	0	0	3
4	PC	PC-IT403	Object Oriented Programming	3	0	0	3
5	BS	BS-M401	Vedic Mathematics (Indian Knowledge System -II)	2	0	0	2
6	HM	HM-HU401	Leadership Skill and Management (Jeevan Kaushal-III)	2	0	0	2
<i>Total Theory</i>				16	0	0	16
Practical/ Sessional/ Audit Course							
1	PC	PC-IT491	Database Management System Laboratory	0	0	3	1.5
2	PC	PC-IT492	Design and Analysis of Algorithms Laboratory	0	0	3	1.5
3	PC	PC-IT493	Object Oriented Programming Laboratory	0	0	3	1.5
4	PW	PW-IT481	Micro Project	0	0	4	2
<i>Total Practical/ Sessional/ Audit Course</i>				0	0	13	6.5
Total of Fourth Semester				19	0	13	22.5

Fifth Semester (Third Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

1	PC	PC-IT501	Machine Learning	3	1	0	4
2	PC	PC-IT502	Operating Systems	3	0	0	3
3	PC	PC-IT503	Theory of Computation	3	0	0	3
4	BS	BS-M501	Basics of Indian Astronomy (Indian Knowledge System-III)	2	0	0	2
<i>Total Theory</i>				11	1	0	12
Practical/ Sessional/ Audit Course							
1	PC	PC-IT591	Machine Learning Laboratory	0	0	3	1.5
2	PC	PC-IT592	Operating Systems Laboratory	0	0	3	1.5
3	PW	PW-IT581	Mini Project-I	0	0	4	2
4	HM	HM-HU591	Professional Skill (Jeevan Kaushal-II)	1	0	2	2
5	HM	HM-HU571	Aptitude Skill Development-I	1	0	0	1
<i>Total Practical/ Sessional/ Audit Course</i>				2	0	12	8
Total of Fifth Semester				13	1	12	20

Sixth Semester (Third Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-IT601	Software Engineering	3	0	0	3
2	PC	PC-IT602	Computer Networks	3	0	0	3
3	PE	PE-IT601x	Professional Elective-I	3	0	0	3
4	PE	PE-IT602x	Professional Elective-II	3	0	0	3
5	BS	BS-BIO601	Biology for Engineers	2	0	0	2
<i>Total Theory</i>				14	0	0	14
Practical/ Sessional/ Audit Course							
1	PC	PC-IT691	Software Engineering Laboratory	0	0	3	1.5
2	PC	PC-IT692	Computer Networks Laboratory	0	0	3	1.5
3	PW	PW-IT681	Mini Project-II	0	0	4	2



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

4	HM	HM-HU671	Aptitude Skill Development-II	1	0	0	1
<i>Total Practical/ Sessional/ Audit Course</i>				1	0	10	6
Total of Sixth Semester				15	0	10	20

Seventh Semester (Fourth Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PC	PC-IT701	Compiler Design	3	0	0	3
2	PE	PE-IT701x	Professional Elective-III	3	0	0	3
3	OE	OE-xxxxx	Open Elective-I	3	0	0	3
4	HM	HM-HU701	Entrepreneurship and Start-ups	3	0	0	3
<i>Total Theory</i>				12	0	0	12
Practical/ Sessional/ Audit Course							
1	PC	PC-IT791	Compiler Design Laboratory	0	0	3	1.5
2	PW	PW-IT781	Project-I	0	0	8	4
3	PW	PW-IT782	Industrial Training Evaluation	0	0	0	1
<i>Total Practical/ Sessional/ Audit Course</i>				0	0	11	6.5
Total of Seventh Semester				12	0	11	18.5

Eighth Semester (Fourth Year)							
Sl. No.	Category	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	PE	PE-EC801x	Professional Elective-IV	3	0	0	3
2	OE	OE-xxxxx	Open Elective-II	3	0	0	3
3	OE	OE-xxxxx	Open Elective-III	3	0	0	3
4	BS	BS-M801	Introduction to Indian Astronomy (Indian Knowledge System -IV)	2	0	0	2
5	HM	HM-HU801	Universal Human Values-II	2	0	0	2



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

			(Jeevan Kaushal-IV)				
<i>Total Theory</i>				13	0	0	13
Practical/ Sessional/ Audit Course							
1	PW	PW-IT881	Project-II	0	0	12	6
2	PW	PW-IT882	Comprehensive Viva Voce	0	0	0	1
<i>Total Practical/ Sessional/ Audit Course</i>				0	0	12	7
Total of Eighth Semester				13	0	12	20

Part III: Specializations and corresponding List of Elective Papers

A. Specialization in AI and ML

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VI	PE-IT601A	Professional Elective-I	Artificial Intelligence	3	0	0	3
2	VI	PE-IT602A	Professional Elective-II	Deep Learning	3	0	0	3
3	VII	PE-IT701A	Professional Elective-III	Natural Language Processing	3	0	0	3
4	VIII	PE-IT801A	Professional Elective-IV	Generative AI	3	0	0	3
<i>Total Theory</i>					12	0	0	12
Practical/ Sessional Course								
1	-	-	-	-	0	0	0	0
<i>Total Practical/ Sessional Course</i>					0	0	0	0
Total					12	0	0	12

B. Specialization in Data Science

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours	Credits
---------	----------	-------------	-------------	--------------	---------------	---------



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

					L	T	P		
Theory									
1	VI	PE-IT601B	Professional Elective-I	Introduction to Data Science	3	0	0	3	
2	VI	PE-IT602B	Professional Elective-II	Data Mining	3	0	0	3	
3	VII	PE-IT701B	Professional Elective-III	Big Data Computing	3	0	0	3	
4	VIII	PE-IT801B	Professional Elective-IV	Exploratory Data Analytics and Visualization	3	0	0	3	
<i>Total Theory</i>					12	0	0	12	
Practical/ Sessional Course									
1	-	-	-	-	0	0	0	0	
<i>Total Practical/ Sessional Course</i>					0	0	0	0	
Total					12	0	0	12	

C. Specialization in Cyber Security

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VI	PE-IT601C	Professional Elective-I	Introduction to Cyber Security	3	0	0	3
2	VI	PE-IT602C	Professional Elective-II	Cryptography and Network Security	3	0	0	3
3	VII	PE-IT701C	Professional Elective-III	Cyber Law and Security Policy	3	0	0	3
4	VIII	PE-IT801C	Professional Elective-IV	Blockchain and its Applications	3	0	0	3
<i>Total Theory</i>					12	0	0	12
Practical/ Sessional Course								
1	-	-	-	-	0	0	0	0
<i>Total Practical/ Sessional Course</i>					0	0	0	0
Total					12	0	0	12



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
 Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
 243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India
 Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Part IV: List of Open Elective Papers

Open Elective Papers offered by IT department

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	V	OE-IT501	Open Elective-I	Object Oriented Programming using Java	2	0	2	3
2	VI	OE-IT601A	Open Elective-II	Machine Learning in Engineering Applications	2	0	2	3
3		OE-IT601B		Introduction to AI and Soft Computing	2	0	2	3
4	VII	OE-IT701A	Open Elective-III	Soft Computing	3	0	0	3
5		OE-IT701B		Database Management System	2	0	2	3
6		OE-IT701C		AI and Soft Computing	2	0	2	3
7		OE-IT701D		Cyber Law and Security Policy	3	0	0	3
8	VIII	OE-IT801B	Open Elective-IV	E-Commerce	3	0	0	3
9		OE-IT801C		Augmented Reality and Virtual Reality	3	0	0	3
<i>Total Theory and Practical</i>					22	0	10	27
Total					22	0	10	27

Part V: Curriculum Structure for Minor Degree

A. Minor Degree in Software Development

Sl. No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	IV	MN-IT401A	E-commerce and ERP	3	0	0	3



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

2	V	MN-IT501A	Multimedia Applications	3	0	0	3
3	VI	MN-IT601A	Android App Development	3	0	0	3
4	VII	MN-IT701A	Internet Technology Laboratory	3	0	0	3
5	VIII	MN-IT801A	Software Project Management	3	0	0	3
<i>Total Theory</i>				15	0	0	15
Practical/ Sessional Course							
1	V	MN-IT591A	Multimedia Applications Laboratory	0	0	2	1
2	VI	MN-IT691A	Android App Development Laboratory	0	0	2	1
3	VII	MN-IT791A	Internet Technology Laboratory	0	0	2	1
4	VIII	MN-PW881A	Project	0	0	4	2
<i>Total Practical/ Sessional Course</i>				0	0	10	5
Total				15	0	10	20

B. Minor Degree in Smart Computing

Sl. No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	IV	MN-IT401B	Distributed Computing	3	0	0	3
2	V	MN-IT501B	Soft Computing	3	0	0	3
3	VI	MN-IT601B	Computer Vision	3	0	0	3
4	VII	MN-IT701B	Cloud Computing	3	0	0	3
5	VIII	MN-IT801B	Internet of Things	3	0	0	3
<i>Total Theory</i>				15	0	0	15
Practical/ Sessional Course							
1	V	MN-IT591B	Soft Computing Laboratory	0	0	2	1
2	VI	MN-IT691B	Computer Vision Laboratory	0	0	2	1
3	VII	MN-IT791B	Cloud Computing Laboratory	0	0	2	1
4	VIII	MN-PW881B	Project	0	0	4	2



MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956
Approved by AICTE & affiliated to Maulana Abul Kalam Azad University of Technology
243 G.T. Road (N), Liluah, Howrah- 711204, West Bengal, India

Ph: +91 33 26549315/17 Fax +91 33 26549318 Web: www.mckvie.edu.in

Inspiring Innovation

<i>Total Practical/ Sessional Course</i>				0	0	10	5
Total				15	0	10	20
C. Minor Degree in AI and ML (For other departmental students only)							
Sl. No.	Semester	Course Code	Course Name	Contact Hours			Credits
				L	T	P	
Theory							
1	IV	MN-IT401C	Introduction to Data Science	3	0	0	3
2	V	MN-IT501C	Machine Learning	3	0	0	3
3	VI	MN-IT601C	Image and Vision Computing	3	0	0	3
4	VII	MN-IT701C	Deep Learning	3	0	0	3
5	VIII	MN-IT801C	Applications of AI	3	0	0	3
<i>Total Theory</i>				15	0	0	15
Practical/ Sessional Course							
1	V	MN-IT591C	Machine Learning Laboratory	0	0	2	1
2	VI	MN-IT691C	Image and Vision Computing Laboratory	0	0	2	1
3	VII	MN-IT791C	Deep Learning Laboratory	0	0	2	1
4	VIII	MN-PW881C	Project	0	0	4	2
<i>Total Practical/ Sessional Course</i>				0	0	10	5
Total				15	0	10	20

Open Elective Papers offered by other departments for IT students

Sl. No.	Semester	Course Code	Course Name	Course Title	Contact Hours			Credits
					L	T	P	
Theory								
1	VII	OE-BS701	Open Elective-I	Operation Research and Optimizing Techniques	3	0	0	3
		OE-EE701C		Automation and Control Engineering				
		OE-EC701C		5G Communication				
2	VIII	OE-BS801B	Open Elective-II	Statistical Methods	3	0	0	3
		OE-EE801C		Electric Vehicles				
		OE-EC801A		Digital Signal Processing				
3	VIII	OE-BS801C	Open Elective-III	Fuzzy Theory and its applications	3	0	0	3
		OE-EE801D		Robotics and Automation				
		OE-EC801B		VLSI Design				
<i>Total Theory and Practical</i>					9	0	0	9
Total					9	0	0	9